

Datasheet: TZC001B

BATCH NUMBER 168093

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|----------------------|---------------------|
| Description: | SpyCatcher2:Biotin |
| Name: | SPYCATCHER2 |
| Format: | Catcher-Biotin |
| Product Type: | Recombinant Protein |
| Quantity: | 1 mg |

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

| | Yes | No | Not Determined | Suggested Dilution |
|-------------|-----|----|----------------|--------------------|
| Immunoassay | ▪ | | | |

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

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|---------------------------------------|---|
| Target Species | Protein/peptide tag |
| Product Form | Purified recombinant protein conjugated to Biotin - liquid |
| Preparation | Recombinant protein expressed in <i>E. coli</i> and purified by affinity chromatography |
| Source | <i>E. coli</i> |
| Buffer Solution | Phosphate buffered saline |
| Preservative Stabilisers | 0.0095% MIT |
| Approx. Protein Concentrations | 250 µM (3.9 mg/ml) |

Product Information **SpyCatcher2** (H-SpyC2) is a 15.7 kDa protein that forms a stable covalent isopeptide bond with a second protein that includes a SpyTag. The reaction occurs spontaneously on mixing, is rapid, irreversible, high-yielding and shows good specificity. SpyCatcher2 contains a His6-tag at the N-terminus. To avoid deamidation of asparagine, a N105D

mutation was introduced ([Hentrich et al. 2020](#)).

The reaction is robust at pH 5 to 8, at temperatures from +4°C to +37°C, in various buffer conditions (Ca²⁺/Mg²⁺ not needed) and in the presence of detergents. The reaction also occurs inside cells (*in vivo*). Since the speed of the coupling reaction is concentration dependent, it is recommended to use SpyCatcher2 undiluted.

All the different formats of SpyCatcher2 are compatible with Bio-Rad's recombinant HuCAL® antibodies with a SpyTag2 at the C-terminus of the heavy chain.

[Download SpyCatcher coupling protocol](#)

SpyCatcher2 (TZC001) is available conjugated to biotin (TZC001B). It is also available as a modified version, SpyCatcher2-CYS (TZC001CYS), which contains a cysteine residue for site-specific conjugation by the user.

SpyCatcher2-CYS can dimerize during storage by formation of a disulfide bond via the free cysteines. Before conjugation to these cysteines, the SpyCatcher2-CYS dimers should be mildly reduced e.g., by addition of 5mM DTT and incubation for 1 hr at room temperature, followed by a fast DTT removal step, e.g., by size exclusion chromatography using PD-10 desalting columns, as DTT can interfere with the subsequent conjugation chemistry. Dialysis is not recommended for DTT removal, as the cysteines can oxidize again during this slow process.

[View all available Catchers](#)

| | |
|---------------------------------|--|
| Protein Molecular Weight | Predicted molecular weight of the purified Catcher is 15904 Da The molecular weight specified excludes conjugation and will vary upon conjugation depending on the molecular weight of the label |
| Purity | ≥90% determined by SDS-PAGE under reducing conditions and visualized by coomassie blue staining |
| Instructions For Use | View SpyCatcher Coupling Protocol |
| References | 1. Keeble, A.H. <i>et al.</i> (2017) Evolving Accelerated Amidation by SpyTag/SpyCatcher to Analyze Membrane Dynamics. Angew Chem Int Ed Engl. 56 (52): 16521-5. 2. Hentrich, C. <i>et al.</i> (2021) Periplasmic expression of SpyTagged antibody fragments enables rapid modular antibody assembly. Cell Chem Biol. 28 (6): 813-824.e6. |
| Storage | Store at -20°C only. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the protein. Should this product contain a precipitate we recommend microcentrifugation before use. |
| Guarantee | 12 months from date of despatch |

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His-tag is a registered trademark of EMD Biosciences.

Health And Safety Information Material Safety Datasheet documentation #20480 available at: <https://www.bio-rad-antibodies.com/SDS/TZC001B>
20480

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Regulatory For research purposes only

Related Products

Recommended Useful Reagents

[SpyCatcher2 \(TZC001\)](#)

[SpyCatcher2-CYS \(TZC001CYS\)](#)

[ANTI SpyCatcher \(HCA379\)](#)

[SpyTag3 PEPTIDE \(BLP086\)](#)

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To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M429725:240417'

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